

REMARKS

Rejection under 35 U.S.C. 103

Claims 1-4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of U.S. Patent No. 6,297,869 Choo. The Applicants respectfully disagree.

Claim 1

The Examiner opines that the admitted prior art performed a machining operation on the edge of a glass substrate in order to bevel the glass therein. The Examiner opines that the admitted prior art failed to teach incorporating a laser in the process, whereby the edge portions of the glass were melted (cut) to provide the bevel in the region where the metal components of the protecting circuit was located.

The Examiner further opines that Choo suggests that it was known to cut a liquid crystal display device including the use of a first laser having a first wavelength and a second laser having a second wavelength which was responsible for cutting the buffer layer in the assembly. In particular, the Examiner directs the Applicants to column 10, lines 33-47 of Choo.

The Examiner concludes that it would have been obvious "to employ the techniques of Choo et al. to melt (and cut) a glass layer as well as a metal layer in a liquid crystal display device manufacture wherein it was desirable to remove material from the edge of the protecting circuit and glass of the display panel arrangements of the admitted prior art".

Applicants respectfully disagree with the Examiner and note that column 10, lines 48-56 of Choo teaches that a "*refrigerant spreading unit 206 following the second laser emitter 204 sprays a refrigerant at an interval of 0.1 ~ 0.3 second on the cutting line on which the stress is concentrated. Therefore, the glass substrate 152 and the buffer 158 which are heated*

by the laser lights are rapidly cooled.

The cutting lines of the glass substrate 152 and the buffer 158 are expanded and contracted by heat and refrigerant, so that the high stress is generated along the cutting lines.

When the stress is a larger than a combination force of glass molecules, the amorphous glass molecule structure is broken and the surface of the glass substrate 152 starts to crack"
[emphasis added].

Applicants note in particular that Choo recites explicitly that the cutting of the glass substrate and buffer derives from a breaking of their molecular structure, by a crack due to mechanical stress. The mechanical stress is due to the juxtaposition of a laser-induced expansion and a refrigerant-induced contraction.

Applicants note that:

- a/ there is no mention in Choo of the material being melt by the laser; and
- b/ the Examiner seems to assert that the glass would inherently be melt according to the teachings of Choo. Given the fact that Choo says nothing about melting, but rather describes cracking, it is submitted that the Examiners assertions are of a factual nature. As such, the Examiner is respectfully requested to either withdraw them, cite a prior art reference that makes the factual assertion or support the factual assertion with an affidavit, as required by 37 CFR 1.104.

The Applicants respectfully submit that contrary to the Examiner's assertion, it would not have been obvious "to employ the techniques of Choo et al. to melt (and cut) a glass layer as well as a metal layer". At least for the above reason, the Examiner has failed to show that it would have been obvious "to employ the techniques of Choo et al. to melt (and cut) a glass layer as well as a metal layer in a liquid crystal display device manufacture wherein it was desirable to remove material from the edge of the protecting circuit and glass of the display panel arrangements of the admitted prior art".

At least in view of the above, claim 1, which recites "*melting a predetermined portion of the protecting circuit by the first laser device emitting laser light with short wavelength, and then melting a predetermined portion of the glass substrate by the second laser device emitting laser light with long wavelength*", is patentable over Choo and the admitted prior art.

Claims 2-4

Claims 2-4 depend on claim 1. The Applicants respectfully submit that, at least in view of their dependency on claim 1, claims 2-4 are patentable over Choo and the admitted prior art.

* * *

In view of the above, the Applicant submits that the application is now in condition for allowance and respectfully urges the Examiner to pass this case to issue.

The Commissioner is authorized to charge any additional fees that may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an

extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

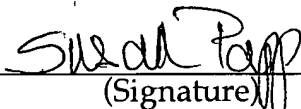
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November 7, 2005

(Date of Transmission)

Susan Papp

(Name of Person Transmitting)



(Signature)

11/7/06

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Respectfully submitted,



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